

REMARKS

Claims 1-2, 4-11, and 13-18 are pending in the application after this amendment adds new claims 17 and 18. No new matter is added by this amendment. In particular, new claim 17 finds support in the Specification at least at page 3, lines 4-7. Claims 4-11 have been withdrawn in response to a restriction requirement.

Claims 13-16, which were added by the amendment mailed on December 16, 2005, are not addressed by the Office Action of March 10, 2005. Therefore, it is respectfully requested that the finality of the Office Action be withdrawn, and that claims 13-16 be allowed or, alternatively, that these claims receive a detailed examination.

35 U.S.C. §102(e)

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent No. 5,952,694 to Miyawaki et al. (hereinafter Miyawaki). Applicants respectfully traverse.

The Examiner, in rejecting claim 1 on the basis of Miyawaki, contends that element 30 is wiring formed to connect the N and P-type region, citing column 9, lines 6-8, and Fig. 10 of Miyawaki (Office Action, page 2, paragraph 3, line 6).

Applicants respectfully disagree. The Examiner indicates that forming an N-type region and a P-type region on a substrate is found in column 8, lines 63-64 of Miyawaki, (Office Action, page 2, paragraph 3, line 5). This section of Miyawaki refer to a p⁺-type region 12 and an n⁺-type region 14. However, contrary to the Examiner's assertion, there is no connection between p⁺-type region 12 and n⁺-type region 14 mentioned in column 9, lines 6-8 of Miyawaki.

The Office Action's response to this argument refers to figure 10 of Miyawaki as disclosing a wiring connecting to a n⁺-type region 14. However, figure 10 of Miyawaki is apparently a different embodiment as that described in column 8, lines 63-64, of Miyawaki, which apparently relates to figure 5. In particular, the embodiment of figure 5 of Miyawaki does not appear to include a p-type region (Miyawaki; figure 10). Therefore, the embodiment disclosed in figure 10 of Miyawaki does not disclose forming a first N region and a P region on a substrate, as recited in claim 1, and therefore Miyawaki does not identically disclose the features of claim 1. The Office Action

improperly chooses elements from different embodiments of Miyawaki and combines them in a manner not disclosed in Miyawaki. Therefore, Miyawaki does not anticipate claim 1.

Furthermore, figure 5 of Miyawaki does not disclose a wire formed so as to connect one or both of the first N and the P regions, as further recited in claim 1. As is apparent from figure 5, second selective oxidation region 15 separates Al electrode 30 from n⁺-type region 19. Though the text of Miyawaki apparently discusses a connection of n⁻-type region 1 to Al electrode 30 through the n⁻-type region 14 and the n⁺-type region 19 (Miyawaki; col. 9, lines 6-9), it is also apparent from figure 5 as well as the following section that the npn and pnp transistors are electrically insulated from each other by the second selective oxidation regions 15 (Miyawaki; col. 9, lines 10-12). Therefore, Miyawaki does not identically disclose all of the features of claim 1.

In addition, the Examiner argues that Miyawaki teaches applying a He-Ne laser/light source on the upper surface of the semiconductor substrate, (col. 21, lines 32-34), the He-Ne laser having a wavelength of 600 nm, (col. 8, lines 54-55), (Office Action, page 3, lines 3-5). However, the purpose of irradiating a He-Ne laser/light having a wavelength of about 630 nm in Miyawaki et al. is detecting alignment marks (hollow portions), as disclosed in col. 8, lines 54 to 56, and col. 21, lines 32 to 34. There is **no indication that the light exposure in Miyawaki exposes wiring**, as recited in claim 1. Miyawaki does not teach or suggest irradiating a He-Ne laser/light having a wavelength of about 630 nm in a **processing step that exposes wiring**, and therefore Miyawaki does not anticipate claim 1.

Additionally, there is no indication that Miyawaki discloses or suggests performing a processing step on a semiconductor substrate on which the upper surface of said wiring is **exposed using a liquid applied to said semiconductor substrate and a light source radiating light** onto said semiconductor substrate, as recited in claim 1. The Office Action cites one section of Miyawaki as disclosing the cleaning step, another section as disclosing the exposure to a light source, and a third section as disclosing the application of a liquid (Office Action; page 2, lines 13-18). However, there is no indication that Miyawaki discloses cleaning with a liquid, nor more importantly that cleaning with a liquid is performed as part of a cleaning process that includes exposure to

a light source. The selection of discrete citations that are not part of a concerted action in the reference to support a single processing step is contrary to the explicit meaning of the claim, and robs the claim of all meaning. Therefore, Applicants respectfully request a citation to a processing step that exposes wiring and that includes exposure to liquid and exposure to a light, as recited in the claim, or that the rejection be withdrawn.

35 U.S.C. §103(a)

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Miyawaki in view of United States Patent No. 6,169,652 to Klebanoff (hereinafter Klebanoff). Applicants respectfully traverse.

Claim 2 depends from claim 1 and is therefore allowable for at least the same reasons as claim 1 is allowable. Additionally, the Examiner argues that both Miyawaki and Klebanoff are concerned with the step of cleaning the semiconductor substrate, (Office Action, page 4, lines 7-8). However, since Miyawaki only mentions cleaning in col. 20, lines 45 to 46, which, in pertinent part, state that, “a monocrystalline Si body 1’ having the oxide films 4 is cleaned,” it is respectfully submitted that Miyawaki is not concerned with the step of cleaning the semiconductor substrate. Accordingly, one of ordinary skill in the art would not combine the teachings of Miyawaki and Klebanoff. Therefore, for at least this additional reason, claim 2 is allowable.

New Claims

New claim 17 depends from claim 1 and is therefore allowable for at least the same reasons as claim 1 is allowable. Additionally, claim 17 avoids Miyawaki by indicating that the two elements of the processing step, the exposing to liquid and the exposing to light, are performed concurrently. Since none of the cited references discusses or suggests this feature, claim 17 is allowable at least for this additional reason.

New claim 18 avoids Miyawaki as presented in the Office Action regarding the features of claim 1. The Examiner, in rejecting claim 1 on the basis of Miyawaki, contends that the language in the claim of “forming wiring so as to connect one or both of the first N and the P regions”, include forming wires to connect to the first n-region

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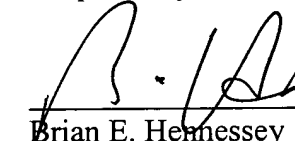
alone. New claim 18 recites that the wire connects to the p-region, and therefore claim 18 is allowable over the cited references.

Conclusion

In view of the above remarks, it is believed that claims 1, 2, and 13-18 are in condition for allowance, which action is respectfully solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper, not fully covered by an enclosed check, may be charged on Deposit Account 50-1290.

Respectfully submitted,



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